

Thomas D. Fontaine

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Education:

- B.A. University of Mississippi, Biology, 1972
- M.S. University of Florida, Environmental Biology, Environmental Engineering Sciences, 1974
- Ph.D. University of Florida, Systems Ecology, Environmental Engineering Sciences, 1978

Previous Positions:

- 1999-2001, Director, Environmental Monitoring and Assessment Division, South Florida Water Management District (SFWMD)
- 1992-1999, Director, Everglades Systems Research Division, SFWMD
- 1988-1989, Program Leader, Coordinated Ecosystem Research, NOAA-Great Lakes Environmental Research Laboratory (GLERL)
- 1984-1988, Group Head, Environmental Systems Studies Group, NOAA-GLERL
- 1982-1983, Assistant Ecologist, University of Georgia Faculty, Savannah River Ecology Laboratory
- 1979-1982, Research Associate, University of Georgia Faculty, Savannah River Ecology Laboratory
- 1972-1979, Graduate Research Assistant, Environmental Engineering Sciences Department, University of Florida

Research Interests and Skills:

- Systems ecology and modeling, research program development and communication
- Nutrient and contaminant fate, transport, and effects modeling
- Uncertainty, risk, and optimization analyses
- TMDL process
- Monitoring network design
- Natural and constructed wetland processes

Professional Societies:

- AAAS
- Ecological Society of America
- Estuarine Research Federation

Appointments / Honors:

- Member of Governor's Commission for a Sustainable South Florida Scientific Advisory Panel
- National Audubon-American Association of Engineering Societies Palladium Medal (team award for Comprehensive Everglades Restoration Plan, May 2000)
- Invited and contributing speaker at numerous scientific meetings

- Invited panelist at numerous EPA, NOAA, IJC, USFWS, USGS, and NRC workshops on wetland restoration, national nutrient assessment, water quality, Great Lakes, and fisheries issues
- Chair, Modeling Committee, EPA contaminant mass balance studies in the Upper Great Lakes Connecting Channels

Selected Publications:

- McCormick, P., S. Newman, S. Miao, R. Reddy, D. Gawlik, C. Fitz, T. Fontaine, and D. Marley. (In press). Ecological needs of the Everglades. In Porter & Porter, editors. Linkages Between Everglades Watersheds. CRC press.
- McCormick, P.V., S. Newman, G. Payne, S. Miao, and T.D. Fontaine. 2000. Ecological effects of phosphorus enrichment in the Everglades. Chapter 3 in Everglades Consolidated Report. (A peer reviewed publication of the SFWMD available at <http://www.sfwmd.gov/org/wre/eir/index.html>)
- Rudnick, D.T., Z. Chen, D.L. Childers, and T.D. Fontaine. 1999. Phosphorus and nitrogen inputs to Florida Bay: the importance of the Everglades watershed. *Estuaries* 22:398-416.
- Moustafa, M.Z., S. Newman, T.D. Fontaine, J.J. Chimney, and T.C. Kosier. 1999. Phosphorus retention by the Everglades Nutrient Removal Project: an Everglades Stormwater Treatment Area. In K.R. Reddy, G.A. O'Conner, and C.L. Schelske, editors. *Phosphorus Biogeochemistry in Subtropical Ecosystems*, Lewis Publishers, Boca Raton.
- Newman, S., J. Schuette, J.B. Grace, K. Rutchey, T. Fontaine, K.R. Reddy, and M. Pietrucha. 1998. Factors influencing cattail abundance in the northern Everglades. *Aquat. Bot.* 60:265-280.
- Moustafa, M.Z., T.D. Fontaine, M. Guardo, and R.T. James. 1998. The response of a freshwater wetland to long-term "low level" nutrient loads: Nutrients and water budget. *Hydrobiologia* 364:41-53.
- Moustafa M., M.J. Chimney, T. Fontaine, G. Shih and S. Davis 1996. The response of a freshwater wetland to long-term low level nutrient loads -- marsh efficiency. *Ecological Engineering*. 7:15-33.
- Guardo, M., L. Fink, T. Fontaine, S. Newman, M. Chimney, R. Bearzotti, G. Goforth. 1995. Large scale constructed wetlands for nutrient removal from stormwater runoff: An Everglades restoration project. *Environ. Mgt.* 19:879-889.
- Fontaine, T.D., and D.J. Stewart. 1992. Exploring the effects of multiple management objectives and exotic species on Great Lakes food webs and contaminant dynamics. *Environ. Mgt.* 16:225-229.
- Landrum, P.F., T.D. Fontaine, W.R. Faust, B.J. Eadie, and G.A. Lang. 1992. Modeling the accumulation of polycyclic aromatic hydrocarbons by the amphipod *Diporeia* (sp). In F. A. Gobas, and J.A. McCorquodale, editors. *Chemical Dynamics in Fresh Water Ecosystems*. Lewis Publishers, Boca Raton.
- Lesht, B.M., T.D. Fontaine, and D.M. Dolan. 1991. Great Lakes total phosphorus model: post audit and regionalized sensitivity analysis. *J. Great Lakes Res.* 1:3-17.
- Clites, A., T.D. Fontaine, and J. Wells. 1991. The distributed costs of environmental contamination. *Ecological Economics* 3:215-229.
- Lang, G.A. and T.D., Fontaine. 1990. Modeling the fate and transport of contaminants in Lake St. Clair. *J. Great Lakes Res.* 16:216-232.
- Lang, G.A., J.A. Morton, and T.D. Fontaine. 1988. Total phosphorus budget for Lake St. Clair: 1975-1980. *J. Great Lakes Res.* 14:257-266.
- Fontaine, T.D., and B.M. Lesht. 1987. Contaminant management strategies for the Great Lakes: Optimal solutions under uncertain conditions. *J. Great Lakes Res.* 13:178-192.
- Fontaine, T.D. 1984. A non-equilibrium approach to modeling toxic metal speciation in acid, aquatic systems. *Ecological Modelling* 22:85:100.
- Fontaine, T.D., III. 1984. Application of risk and uncertainty analysis techniques to a heavy metal speciation model. *Ecological Modelling*. 22:101-108.
- Fontaine, T.D. 1984. A non-equilibrium approach to modeling metal speciation in acid, aquatic

systems: Theory and process equations. *Ecological Modelling* 21:287-313.

- Fontaine, T.D. 1983. Characteristics of Aufwuchs on natural and artificial submersed lotic plants: Substrate effects. *Archiv fur Hydrobiologie* 96:293-301.
- Fontaine, T.D., and S.M. Bartell, editors. 1983. *Dynamics of Lotic Ecosystems*. 494 pp. Ann Arbor Science, Ann Arbor.
- Ewel, K.C. and T.D. Fontaine. 1983. Structure and function of a lower latitude lake. *Ecological Modelling* 19:139-161.
- Ewel, K.D. and T.D. Fontaine. 1982. Effects of white amur (*Ctenopharyngodon idella*) on a Florida lake ecosystem: A model. *Ecological Modelling* 16:251-273.
- Fontaine, T.D. 1981. A self-designing model for testing hypotheses of ecosystem development. In D.M. DuBois, editor. *Progress in Ecological Engineering and Management by Mathematical Modelling*.
- Fontaine, T.D., and K.C. Ewel. 1981. Metabolism of a Florida lake ecosystem. *Limnol. Oceanogr.* 26:754-763.